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IN THE TECHNICAL COUNCIL OF THE MINISTRY OF COMMUNICATIONS USSR

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Unsigned Article

The technical council of the Ministry of Communications USSR discussed the reports of L. N. Vasil'yev (TsNIIS [Tsentral'nyy nauchno-issledovatel'skiy institut svyazi -- Central Research Institute for Communications]) and I. A. Kazarinov (Giprosvyaz') on the topic "A System of Long-Distance Power Supply to Repeater Stations on Coaxial Cable Toll Circuits Including Manual and Mechanical Offices."

The Research Institute of the Ministry of the Radio Engineering Industry USSR, under contract to the Ministry of Communications, is currently doing development work on equipment designed to supply long-distance power to repeaters on coaxial cable toll circuits with 2.52/9.4 mm pairs, permitting an operating voltage of up to 800 v (effective).

In accordance with the technical requirements developed on the basis of the coordinated work of the TsNIIS, Giprosvyaz', and the Technical Administration of the Ministry of Communications, manually operated repeater stations are spaced at 127.5 km intervals. Between each pair of manually operated repeater stations there are 15 mechanical repeater stations and one automatic emergency power supply station, integrated with the mechanical repeater station located at the half-way point of the repeater district. Power is supplied to the mechanical repeater stations from the manually operated stations over the same cable which carries the message signals. The provision of automatic emergency power supply stations assures 100% emergency power coverage as well as trouble-free operation with both single and 2-cable transmission.

The technical council approved the provision in the proposals submitted for long-distance power supply for the use of multiphase a-c current with existing coaxial cable facilities, to be sent over the inner conductor of the coaxial pair. This makes possible an extension of transmission distance without sacrifice of switching flexibility. In addition, provision must be made in the proposed system for 100% emergency long-distance power coverage over the entire length of the toll circuit. This will make it possible to apply this system to both single and 2-cable toll circuits.

In as much as long-distance power transmission over existing coaxial cable facilities is limited to voltages not in excess of 800 v, a fact which limits the length of the repeater districts between neighboring manual repeater stations, the technical council has approved a request to the Main Cable Administration of the Ministry of the Electrical Industry USSR to include in the 1955 research plan of the NII KP [Nauchno-issledovatel'skiy institut kabel'noy promysh'lennosti -- Research Institute of the Cable Industry] the development of methods which will permit an increase in the voltage available for long-distance power transmission over the cables indicated above.

The technical council heard the report of Ye. V. Markha (MEIS) and B. N. Roginskiy (Laboratory on the Development of the Scientific Problems of Wire Communications, Academy of Sciences USSR) entitled "On the Results of the Development of RPS-100 Mechanical Relay-Type Telephone Subexchanges."